published some poems. From that time onward he continued to write poems and novels. The most successful of these was "Hugh Wynne," a novel which dealt with life and manners in Philadelphia at the time of the Revolution. This novel showed an intimate knowledge of the history of the time, and of the people who took part in the great national movement. The figures he described were no mere puppets, but seem to be living and breathing men and women, and the work was of such high literary excellence that it at once placed him in the foremost rank of American novelists. Of very few men can it be said that as a young man he took a first place amongst the physiologists, as a middle-aged man amongst the physicians, and as an elderly man amongst the novelists of his country. His extraordinary mental power was combined with an almost equally extraordinary bodily activity, so that until about a year before his death he would think nothing of a walk of ten miles.

As a host he was most cordial and genial; as a friend he was most kind, trusty, and true; and his great information, broad views, and power of expression made a conversation with him a pleasure, and a stay in his house a delight to be remembered for the rest of life. He seemed to possess in a very marked degree the power of saying and doing the right thing at the right moment. His loss leaves the world the poorer, and will be a personal sorrow to everyone who has ever known him.

Little more than a week ago I received a Christmas card from him headed, "The Star of Bethlehem," containing four verses of poetry printed, but signed in his own handwriting, and I think probably his own composition. In view of his death so soon afterwards, the last verse seems almost prophetic, and it gives such an insight into his feelings, character, and hopes that I think perhaps I may be allowed to quote it:—

"Still in our heaven of memory keep
Remembrance of the gifts He gave;
The guiding life, the star of love,
To glow for us beyond the grave."

LAUDER BRUNTON.

## NOTES.

THE chief distinction of interest to the scientific world in the list of New Year Honours is the appointment of Sir Archibald Geikie, K.C.B., F.R.S., to the Order of Merit, in recognition of the eminent services which he has rendered to the nation and to the world at large in the science of geology. Mr. James Bryce, O.M., F.R.S., who retired recently from the post of British Ambassador at Washington, is created a viscount. Sir Christopher Nixon, Bart., professor of medicine in University College, Dublin, has been made a Privy Councillor in Ireland. Sir Rickman J. Godlee, Bart., president of the Royal College of Surgeons, has been made a Knight Commander of the Royal Victorian Order, and Sir William J. Collins has received a like honour. Among the forty new knights are Prof. E. Rutherford, F.R.S., Langworthy professor of physics, University of Manchester; Mr. R. Blair, education officer of the London County Council since 1904; Prof. H. B. Allen, professor of pathology, University of Melbourne; and Surgeon-General A. T. Sloggett, director, Medical Services in India. Major A. Cooper-Key, Chief Inspector of Explosives, Home Office, has been appointed a Companion of the Bath (C.B.); Dr. A. Theiler, director of veterinary research, Department of Agriculture, Union of South Africa, has been promoted to be Knight Commander of the Order of Saint Michael and Saint George (K.C.M.G.); and the new Companions (C.M.G.) of the same Order include Mr. A. G. Bell, Inspector of Mines, Trinidad; and Prof. J. Shand, professor of natural philosophy, University of Otago, New Zealand. Major J. D. E. Holmes, Imperial bacteriologist in charge of the veterinary laboratory at Muktesar, has been made a Companion of the Order of the Indian Empire (C.I.E.).

MR. W. POPPLEWELL BLOXAM, whose death we announced with regret last week, contributed to the Chemical Society many papers which testify to his work for the advancement of science. In the early 'nineties of last century he devoted his energies to the task of unravelling the mysteries surrounding the alkali polysulphides and their oxidation changes; no doubt his attention was turned in this direction by Debus, under whom he started his professional career. Having filled a position as *locum tenens* professor of chemistry at Presidency College, Madras, Bloxam was retained in India by the Government of Bengal to investigate the question of improving the cultivation and manufacture of indigo, and from 1902–5 much work was carried on at the Dalsingh Serai Research Station, culminating in a report in conjunction with H. M. Leak and R. S. Finlow, now cited as authoritative. The underlying chemical investigations are to be found in the Transactions of the Chemical Society. A further Government grant enabled Mr. Bloxam on his return to this country to continue his researches at Leeds, whence there emanated several papers for the Chemical Society, in conjunction with Prof. A. G. Perkin and others, on the constitution of indirubin, the analysis of indigo, and the like. Another subject which came under Mr. Bloxam's notice was the complexity of the proteids of blood, and in the Proceedings of the Physiological Society is to be found a paper dealing with the constitution of these compounds as they occur in horse serum. As a whole Mr. Bloxam's work was sound, and his death at a comparatively early age deprives us of a genuine enthusiast in the cause of chemical research.

DR. HUGO MIEHE, associate professor of botany in the University of Leipzig, has succeeded the late Prof. H. Potonié as editor of the *Naturwissenschaftlichen Wochenschrift,* published by Mr. Gustav Fischer, Jena.

DR. R. WORMELL, instructor in mathematics at the Royal Naval College, Greenwich, in 1873, headmaster of the Central Foundation School, London, from 1874 to 1900, and the author of several valuable works on scientific and educational subjects, died on January 6, at seventy-four years of age.

MR. C. B. ROBINSON, an American botanist, who was holding a temporary appointment under the Philippine Government, is reported to have been killed by natives of Amboyna Island, where he was engaged on a study of the local flora. He was forty-one years of age, and had been connected for some time with the New York Botanical Gardens.

A MEETING of members of the Wireless Society of London will be held at the Institution of Electrical Engineers on January 21, when an address, illustrated by experiments, will be given by the president, Mr. A. A. Campbell Swinton. By the courtesy of Le Commandant Ferrio, a vice-president of the society, the radio-telegraphic station of the Eiffel Tower, Paris, will send a special wireless message to the society during the meeting, and arrangements are being made to render the message audible to all present.

PROF. A. GARBASSO informs us that Mr. A. Lo Surdo, assistant professor in the R. Istituto di Studi Superiori, Florence, has succeeded in observing the Zeeman effect in an electric field announced by Prof. Stark in NATURE of December 4, 1913 (p. 401). Mr. Lo Surdo has observed that the effect is present in all vacuum tubes, but in a very short space immediately in front of the kathode. A photograph sent by Prof. Garbasso shows the line H$\gamma$ resolved into five components, but it is unsuitable for satisfactory reproduction. Two papers upon the subject have been presented to the R. Accademia dei Lincei, and will be published in the *Rendiconti* of the academy.

IN spite of appeals from several distinguished Americans, the Bill giving San Francisco extensive water supply and power rights in the Hetch-Hetchy Valley has passed both Houses of Congress, and becomes law by the signature of the President. One effect of the new Act will be to remove from the use and enjoyment of the general public the valley of the Tuolumne River in the north-western part of the Yosemite National Park. It is estimated that the provision prohibiting any refuse of men or animals from being deposited within 300 ft. of running water or of lakes tributary to the Tuolumne River above Hetch-Hetchy will exclude the public from one-half of the park. The Tuolumne Cañon, in particular, is described as containing some of the finest scenery in America, excelled only, if at all, by the Grand Cañon of the Colorado in Arizona.

THE eighty-second annual meeting of the British Medical Association is to be held next July at Aberdeen. The president-elect, who succeeds Dr. W. A. Hollis, of Brighton, is Sir Alexander Ogston, of Aberdeen. The annual representative meeting will begin on Friday, July 24; the president's address will be delivered on July 28, and the sections will meet on the three days following. The address in medicine is to be delivered by Dr. Archibald E. Garrod, and the popular lecture by Prof. J. Arthur Thomson. The sections of the council of the association with their presidents are:—Anatomy and Physiology, Prof. Robert W. Reid; Dermatology and Syphilology, Dr. Alfred Eddowes; Diseases of Children, including Orthopedics, Dr. John Thomson; Electro-Therapeutics and Radiology, Dr. Samuel Sloan; Gynæcology and Obstetrics, Dr. Francis W. N. Haultain; Laryngology, Rhinology, and Otology, Dr. Harry L. Lack; Medical Sociology, Dr. John Gordon; Medicine, Dr. F. J. Smith; Naval and Military Medicine and Surgery, Deputy-Surgeon-General M. Craig; Neurology and Psychological Medicine, Dr. F. W. Mott; Ophthalmology, Dr. C. H. Usher; Pathology and Bacteriology, Dr. W. S. Lazarus-Barlow; Pharmacology, Therapeutics, and Dietetics, Prof. J. T. Cash; State Medicine and Medical Jurisprudence, Prof. Matthew Hay; Surgery, Mr. John S. Riddell; Tropical Medicine, Prof. W. J. R. Simpson.

THE reports for the fifty-two weeks ended December 27, issued by the Meteorological Office, show that the mean temperature for 1913 was in excess of the average over the whole of the British Isles; the greatest excess was in the midland counties and the east of England, where it amounted for the whole year to nearly 2°. The rainfall was in agreement with the average in the south-east of England, and was in excess in Ireland and in the south-west of England; in all other districts there was a deficiency. The greatest deficiency of rain was 5·37 in. in the west of Scotland, and in the east of Scotland it was 4·53 in. In the English districts the greatest deficiency was 3·32 in. in the north-eastern district, and in the east of England the deficiency was 2·58 in. The rainy days were generally deficient in the eastern section of the kingdom and in excess in the western section. The duration of bright sunshine was below the average over the whole of the British Isles. The Greenwich observations give 51·5° as the mean temperature for the year, which is 1·5° in excess of the average. April, July, and August were the only months with a deficiency of temperature, the defect for the several months being respectively 0·4°, 3·8°, and 1·1°. The highest monthly mean was 61·8° in August. In July the highest temperature was 76°, and there was only one day with the temperature above the average, whilst the duration of bright sunshine was only ninety-five hours, which is ninety-one hours less than the average. There were in all only thirty-three nights with frost. The rainfall for the year was 22·00 in., which is 2·13 in. less than the average. The wettest month was October, with 3·58 in., the driest June, with 0·61 in. Rain fell on 169 days during the year, and January, March, and April each had twenty days with rain. The aggregate sunshine for the year was 1329 hours, which is twenty-two hours fewer than the average.

IN the sixth part of "Visvakarma," edited by Mr. Ananda K. Coomaraswamy, a number of interesting photographs of examples of Indian sculpture are reproduced. Perhaps the finest specimens are the elephants, a favourite study of the native artist, from Mamallapuram, on the western coast, and a remarkable bronze figure of the monkey god, Hanumán, from Ceylon, and of a mongoose from Nipal. This cheap and well-illustrated periodical furnishes valuable material for the study of Oriental sculpture.

IT is a good sign of the interest now felt among Anglo-Indian officials in local beliefs and folklore, that the *Dacca Review* has been founded for the publication of information on these subjects from eastern Bengal. Mr. H E. Stapleton, in vol. iii., No. 5, of the review, gives an interesting account of Ghazi Sahib, the patron saint of boatmen, the first Musalman invader of Sylhet. Round this worthy a mass of curious legend has collected, which deserves the attention of students of folklore and peasant religions.

IN the December issue of *Man* Prof. G. Elliot Smith revives the question of the origin of the dolmen. According to his theory, it is a degraded form of the Egyptian *mastaba*, or stone sepulchre. It is, he believes, "altogether inconceivable that the more or less crude, though none the less obvious, imitations of the essential parts of the fully-developed *mastaba*, which are seen in the Sardinian 'Giants' Tombs,' the *allées couvertes* of France and elsewhere, the widespread 'holed dolmens,' and all the multitude of 'vestigial structures,' to use a biological analogy, represented in the protean forms of the Algerian and Tunisian dolmens, could have been invented independently of the Egyptian constructions." At the two last meetings of the British Association, this view failed to command the acceptance of authorities like Profs. Boyd Dawkins and Flinders Petrie. The present exposition, though interesting and suggestive, does not deal with the more obvious objections which have been from time to time advanced in opposition to it.

MR. ROBERT MOND, who founded the Infants' Hospital, Vincent Square, S.W., in an interview reported in *The Times* of December 29, expresses a very decided opinion that infants should be fed on fresh, raw milk. He states that children thrive far better on untreated milk, that there is little risk of tuberculous infection therefrom, and that children fed on sterilised or pasteurised milk, are weak and ill-nourished and predisposed to tuberculosis. Mr. Mond has an experimental farm at Sevenoaks, at which full records and memoranda are kept, which are at the disposal of any farmer or dairyman who desires to consult them.

DR. G. MCMULLAN and Prof. K. Pearson describe, in the October (1913) issue of *Biometrika*, a pedigree of split-foot or "lobster-claw." The pedigree extends over four generations, and includes more than a hundred individuals. The deformity is always transmitted only by the affected, but appears in considerably more than half the members of affected families; for example, in the three largest families there are eight affected and none normal, six affected and four normal, five affected and four normal. The extent of the abnormality varies greatly in different cases, as is shown in the photographs with which the paper is illustrated.

EHRLICH'S well-known method of *intra vitam* staining by means of methylene-blue is proving itself extraordinarily fruitful in investigations of the nervous system of the lower animals. Adolf Gerwerzhagen has recently applied this method to the study of the nervous system of the Polyzoa, or, as some authorities prefer to call them, Bryozoa (*Zeitschrift für wissenschaftliche Zoologie*, Bd. cvii., p. 309). Students of zoology have hitherto had to content themselves with very scanty information on this subject, and will doubtless be surprised at the complexity of the nervous system now for the first time demonstrated. It appears that, in addition to the cerebral ganglion and the main nerves supplying the lophophore, &c., there is a rich network of nerve fibres and ganglion cells, not only in the body-wall of individual zooids, but extending throughout the whole colony, while the lophophore and tentacles are provided with an elaborate system of nerve fibres and sense cells, and there is also a so-called "sympathetic" system ramifying over the alimentary canal. The present communication deals with the nervous system of the well-known fresh-water form, *Cristatella mucedo*, and the remarkable coordinated creeping movements of the entire colony are rendered intelligible by the discovery of the common colonial nervous system.

IN vol. lxiv. of *Vidensk fra den naturk. Foren* Mr. H. Blegvad describes, under the name of *Leptocephalus hjorti*, the smallest leptocephalid, or eel-larva, at present known. The specimen, which was taken by the writer in the Atlantic during a voyage to the Danish West Indies in 1910–11, measures only 19·8 mm. in total length. The next smallest example taken had a length of 21·5 mm.

IN an article published in the December issue of the Museums' Journal, Mr. C. Hallett, the official guide at the British Museum, alludes to some of the difficulties connected with the work of guide-demonstrators in museums. One curious point is that, in Mr. Hallett's opinion, the majority of the visitors to the museum are drawn from the classes least fitted to appreciate its contents. Among those who form the guide-led parties, there may be a few with some knowledge of the objects under review, while there will generally be many with a little knowledge, which they desire to increase. The bane of such parties are those who are not only utterly destitute of knowledge, but have no desire to acquire any. Noise and overcrowding form other difficulties, but the gravest question to be faced is the extent (if any) to which a guide-conducted party ought to take precedence over other visitors to a museum.

THE 1914 issue of the "Live Stock Journal Almanack" fully sustains the high reputation of that publication as a trustworthy and up-to-date guide to all important matters connected with British horses, cattle, sheep, &c., during the previous year. Special interest attaches to an article by Col. Ricardo on the horse-problem, particularly in respect to Army remounts; and although there may be a shortage in horses suitable for this particular kind of work, it is satisfactory to learn from other articles that the trade in shire and other working horses was never better. In connection with cattle, reference may be made to an article on "free-martins," by Mr. C. J. Davies, in which a common misunderstanding is corrected. A "free-martin" is generally stated to be an infertile female twin calf, the fellow of which is a male; but, according to Messrs. Geddes and Thompson, such an infertile calf is really a hermaphrodite male, the fellow twin of which is a normal male. The true nature of the free-martin is revealed by its possessing the essential internal generative organs of the bull, although these are accompanied by the external accessory organs of a female, while a rudimentary vagina and uterus are also present. From the article on sheep we regret to learn that the number of head in Great Britain continues to show a serious decrease.

THREE papers on osmotic pressures in plants, by Prof. H. H. Dixon and Mr. W. R. G. Atkins, have recently appeared in the Proceedings of the Royal Dublin Society, vol. xiii. (1913). The authors show that the sap pressed from living, untreated tissues does not give a true estimate of the concentration of that in the vacuoles of the cells before the application of pressure, that in order to extract the sap from the cells without altering the concentration it is necessary to render the protoplasmic membranes permeable, and that this can best be effected by the application of liquid air. This discovery makes it necessary to revise all freezing-point and electrical conductivity determinations where expressed sap has been employed, and the authors find that their new measurements, making use of sap pressed immediately after thawing from tissues frozen solid in liquid air, give much higher osmotic pressures than had been obtained previously. An important point established is that the actual osmotic pressures in the cells are much greater than the requirements of the well-known cohesion theory of the ascent of sap in trees demand.

THE potentialities of the British egg and poultry trade are indicated in an article, by Mr. Edward Brown, in the Journal of the Agricultural Organisation Society, vol. vii., Nos. 3 and 4, 1913. Since the visit of the first egg and poultry demonstration train, three years ago, to three of the counties in South Wales the value of the local output has been increased, according to a conservative estimate, to the amount of 25,000*l*. to 30,000*l*. per annum. During April and May of last spring a similar train made a twelve days' tour in six counties in North Wales, and was visited by more than 19,000 persons. This will suffice to indicate the great interest evinced by the general public in the question, and such work, educational in itself, followed by cooperation and organisation in the marketing of produce, cannot fail to be of great value. It is, however, highly desirable that the continuation of this work should be ensured, and that adequate official support should be given instead of its being dependent on private generosity.

WE have received from the United States Geological Survey three bulletins, namely No. 522, "Portland Cement Materials and Industry in the United States," by Edwin C. Sekel; No. 527, "Ore Deposits of the Helena Mining Region, Montana," by Adolph Knapf; and No. 529, "The Enrichment of Sulphide Ores," by William Harvey Emmons. The first- and last-named of these are necessarily of more general interest than a description of a specific district can be, and whilst the first will particularly interest cement makers and engineers in general, the latter appeals most strongly to the economic geologist, and student of ore deposition. Although the bulletin upon Portland cement is intended primarily for Americans who are either "owners of lands on which marl, limestone, or clay deposits are found," or "cement manufacturers or those who desire to become such," the information conveyed will be found of great use to cement manufacturers and users all the world over, giving as it does an excellent sketch of the nature of cements and the principles of cement manufacture. As regards the bulletin by Mr. Emmons, it recapitulates in a very clear and readable form the present state of knowledge concerning the phenomena of secondary enrichment of ore deposits, paying particular attention to the chemistry of the changes involved in this enrichment; it deserves the careful attention of all mining engineers who have to deal with ore deposits liable to be affected by the phenomena here discussed.

MR. R. C. MOSSMAN has contributed to *Symons's Meteorological Magazine* for December the sixth of his interesting articles on southern hemisphere seasonal correlations. (1) Argentine Republic and Chile: The departure from the normal of the thirty-six years, 1876–1911, at certain stations show that the winter variations of temperature are generally in harmony with each other from May to August. A comparison of South American winter temperature variations with conditions in other regions yielded (with one exception) negative results. (2) Auckland, N.Z., and Alice Springs, Australia: On comparing the mean temperature at Auckland for the second quarter of the year with the values at Alice Springs for the last quarter, it was found that from 1892 to 1906 the former was an index of the latter. (3) Sydney, N.S.W., and San Francisco: From 1864 to 1889 a well-marked relation was apparent between the mean temperature at Sydney from May to August and the rainfall at San Francisco for October to April following. (4) South Orkneys and Kimberley: For the years 1903–11 the August and September temperature at the former has been a direct index of the temperature at the latter during the three months following. The temperature at the South Orkneys in August and September is largely dependent on the ice conditions of the surrounding ocean. The paper is accompanied with explanatory tables and diagrams.

MR. P. E. B. JOURDAIN's "The Principle of Least Action" (Open Court Publishing Company, 1*s*. 6*d*.) is a reprint of three essays published in *The Monist* (1912–13). The first of these is mainly historical, and gives an abundance of quotations and references; the second deals with extensions of the theory, and alternative ways of considering the problem—in particular an outline of O. Hölder's important theory; the third paper is a critical summary. Altogether we have an interesting and impartial view of the subject, expressed in as simple a form as the nature of the topic seems to admit.

IN a pamphlet called "Principles of a New Theory of the Series," Mr. F. Tavani has given an interesting and apparently novel view of the subject. It has at any rate the advantage of making one comparatively simple test cover a large number of important cases.

We can scarcely expect more from it than this; for the test of convergence of a given series is ultimately whether $s_n$ has a limit, $s_n$ being the sum of the first $n$ terms, and there is no reason to suppose that we can find, in all cases, another and more manageable way of expressing the condition of convergence. Mr. Tavani gives several important references, and has had the advantage of criticisms by Prof. M. J. M. Hill and Mr. G. H. Hardy.

RECENT low-temperature research has led to results which it is difficult to reconcile with the belief that at the absolute zero of temperature the energy of the atoms and molecules of bodies vanishes. The change of the specific heat of hydrogen at very low temperatures has been shown by Prof. Einstein and Dr. Stern to be consistent with the energy of the molecules being finite at the absolute zero. Prof. Onnes and Dr. Keesom come to the same conclusion with regard to the translatory energy, and Dr. Keesom has shown that some of the difficulties of the theory of free electrons in metals are removed by the assumption of finite energy at the absolute zero. According to a recent communication from the physical laboratory of the University of Leyden, Dr. Oosterhuis finds it necessary to assume a finite energy of rotation of the molecules at the absolute zero in order to correlate his observations of the magnetic susceptibilities of a number of paramagnetic substances at very low temperatures. By this means the deviations from Curie's law of constancy of the product of susceptibility and absolute temperature are explained.

IN a paper in the *Atti R. Accad. Lincei* (vol. xxii., ii., p. 390) Mr. C. Acqua shows that nuclear degeneration is produced in plant cells by traces of uranium salts. If, for example, wheat plants are grown in very dilute solutions of uranyl nitrate (1 in 10,000), the rootlets soon cease to develop, and this is accompanied by the production of a yellow colour in the nuclei of the cells of the meristem, which at the same time no longer stain in the usual manner with hæmotoxylin. The action of the uranium brings about destruction of the chromatin, and the cessation of nuclear activity. The cause of this is not yet ascertained, but it is suggested that it may be the formation of organo-metallic compounds or the radio-activity of the uranium itself.

THE Chemical Society's Journal contains an important contribution, by Messrs. Pickard and Kenyon, to the study of optical rotatory power in homologous series. Of the series of secondary alchohols from $C_2H_5.CHOH.CH_3$ to $C_2H_5.CHOH.C_{15}H_{31}$, one is necessarily inactive, but all the others with one exception have been prepared and isolated in an optically active form. The molecular rotatory powers in this remarkable series of compounds increase fairly regularly when once the inactive diethyl carbinol $C_2H_5.CHOH.C_2H_5$ has been passed, but somewhat excessive optical activity appears in the fifth and tenth members of the series. There might be some tendency to ascribe this small excess of rotatory power to experimental error, but for the fact that when the alcohols are merely dissolved in benzene or in ethyl alcohol the curve of increasing rotatory power loses all pretence of uniformity, and develops a series of remarkable humps, which culminate at the alcohols, $C_2H_5.CHOH.C_5H_{11}$, $C_2H_5.CHOH.C_{10}H_{21}$, and perhaps $C_2H_5.CHOH.C_{15}H_{31}$. This curious behaviour is attributed to the fact that the "growing chain" of carbon atoms probably assumes a spiral form, each loop of the spiral containing *five* carbon atoms. Some indication of the same qualities has been detected in *solutions* of the methyl-carbinols, $CH_3.CHOH.R$, but the isopropyl-carbinols, $(CH_3)_2CH.CHOH.R$, behave in a perfectly regular manner, both in the homogeneous state and in solution.

WE learn from *The Engineer* for January 2 that the French Minister of Public Works has requested the railway companies to submit proposals for equipping the cabs of express locomotives with audible signals as soon as possible. The Minister also points out the terrible consequences resulting from the employment of gas for lighting the coaches whenever a train is smashed in collision. He therefore orders the railway companies to hasten the substitution of electrical for gas lighting on fast trains, and he further states that he will henceforth refuse permission to the companies to purchase rolling stock equipped for gas lighting. It may be noted that British railway companies are giving attention to the automatic control of trains. Some are trying mechanical means of placing fog-signals on the line when the semaphore is at danger; others, like the Great Western and the North-Eastern, have cab signals already in use, and some are testing electrical apparatus. Many people hold that it is better to leave full responsibility with the driver, and not transfer it to a mechanism which may fail. Public opinion will, however, probably force automatic control on British railway companies.

LECTURERS in colleges and teachers in schools will welcome the publication of the second part of Messrs. Newton and Co.'s catalogue of lantern slides. The volume, which is effectively bound in cloth, runs to nearly six hundred pages, and gives full particulars of the immense variety of slides which this firm is able to supply to illustrate lectures and lessons in science, nature-study, geography, history, the various industries, and other subjects. The increase in this department of their business has led Messrs. Newton and Co. to open their New Lantern Slide Gallery at 37 King Street, Covent Garden, W.C. It is worthy of note that many of the sets of slides catalogued have been compiled by such educational authorities as the Visual Instruction Committee of the Colonial Office, the Committee of London Teachers of Geography, and so on, and purchasers have the assurance that the slides are particularly suitable for educational purposes. The number of slides dealing with scientific subjects is very large, and many of them represent important pieces of research. As typical may be mentioned those from photographs of flying bullets by Prof. C. V. Boys, of sound waves by Prof. R. W. Wood, of ripples by Dr. J. H. Vincent, and of astronomical work in the Solar Physics Observatory.